SUSTAINABLE GROUNDWATER MANAGEMENT WORKSHOP

March 24, 2014

"SUSTAINABLE"

Groundwater Management

California Water Action Plan ("Plan")

1. **Overdrafted basins**
2. **Land subsidence**
3. Seawater intrusion
4. Decline in ecosystem services
5. **Degraded water quality**

DRAFT

Hydrologic Region: Tulare Lake
South Central Region Office (SCRO)
Basin Area: 1950113 acres (3047.1 miles)
2010 Population: 700323

Basin: SAN JOAQUIN VALLEY
Sub_Basin: KERN COUNTY
Basin Number: 5-22.14
Date: 12/30/2013

DATA COMPONENT RANKING VALUE TABLE

Data Component		Ranking Range	Units	Ranking Value	Confidence Adjustment	Average of Components	Adjusted Ranking Values
1. Population		7 - 250	persons/sq-mi	1			1
2. Population Growth		≥ 40%	percent	5			5
3. Public Supply Wells		0.11 - 0.25	wells/sq-mi	2			2
4. Total Wells		2.1 - 5.0	wells/sq-mi	2	1.5		1.5
5. Irrigated Acreage		251 - 350	acres/sq-mi	4	3		3
6. GW Reliance	GW Use	0.41 - 0.60	acre-foot/acre	3		2.25	2.25
	% of Total Supply	21 - 40	percent	2	1.5		
7. Impacts*		--	--	5			5
8. Other Information**		--	--	1			1
Overall Basin Ranking Score		**> 19.7**	**--**				**20.8**

Overall Basin Priority: High

Very Low Ranking Range	Low Ranking Range	Medium Ranking Range	High Ranking Range
0 - 5.4	5.4 - 12.5	12.6 - 19.7	> 19.7

Data Sources and Calculation Notes:

1. Population: Dept. of Finance 2010 census data.
2. Population Growth: Dept. of Finance 2010 census data projected to 2030.
3. Public Supply Wells: Dept. of Public Health, 2012 Drinking Water Supply Database.
4. Total Wells: DWR Well Master database.
5. Irrigated Acreage: DWR 2005 land use data.
6. Groundwater Reliance: DWR, 2005 land use data.
7. Documented Impacts: DWR Region staff review of DWR Bulletin 118-2003, GWMPs, or other readily available published information.
8. Other Information: DWR Region staff review of DWR Bulletin 118-2003, GWMPs, or other readily available published information.
9. Data component values were reduced by 25% due to data confidence, prior to calculating total GW basin ranking value. Overall Basin Ranking = Population + Population Growth + PSW + (Total Wells x .75) + (Irr Acreage x 0.75) + {[GW Use + (GW % x .75)]/2} + Impacts + Other

Notes on SAN JOAQUIN VALLEY Basin

* Impacts: Subsidence, overdraft, water quality degradation

**Other Information: Agricultural importance, large basin which results in low population density.

Kern County Subbasin

Impacts:

1. Subsidence
2. Overdraft
3. Water quality degradation

Responsibility WITH Authority

"...the Plan calls for legislation that gives local and regional agencies comprehensive authority to address their groundwater challenges"

Websters:
au·thor·i·ty
The power to determine, adjudicate, or otherwise settle issues or disputes; jurisdiction; the right to control, command, or determine.

Existing Tools, Authorities and Incentives:

- **Authorities**
  - Water Districts/Agencies have limited authority to address groundwater sustainability issues.
    - Land Use Planning
- **Tools**
  - CASGEM
  - Groundwater Management Planning
  - Integrated Regional Water Management Planning
    - Monitoring & Reporting Focused
- **Incentives**
  - Grant Funding -

What more is needed?

- **Authorities**
  - Well permits / Will serve
    - Land use planning connected to GWMP agency
  - Groundwater metering
    - Or functional equivalent
  - Demand management
  - Data collection & reporting
  - Ability to asess fees
    - Clarity on 218 issues etc.
  - Enforcement authority

What more is needed?

- **Tools**
  - Access to technical resources & support
  - State to provide methods/protocols "tools" to:
    - Measure & Map
      - Understand the resource
    - Monitoring
      - Expansion of CASGEM concept
    - Management
      - Clearly defined requirements
      - Groundwater modeling to evaluate actions & sustainability thresholds

What more is needed?

- **Incentives**
  - Local control/acceptance for entities that form Groundwater Management Planning Group –
    - State backstop for others (shorter time?)
  - Technical Support
  - Recognition of basins that have met sustainability goals
    - Reduced monitoring etc.
  - **Funding**
  - Must be at a level that makes implementation possible given local economic factors
  - **Water Supply**
  - **State water policy that links surface water supplies and groundwater sustainability**

Final Thoughts:

1. Groundwater and surface water are an interconnected single resource.

2. In Kern County, Groundwater "impacts" are a symptom of supply reduction.

3. Limitations on groundwater pumping will be economically devestating for many areas.

Solutions should focus on both supply restoration as well as demand management